



No April Club Meeting Due to COVID-19 Rules on gatherings

Socialize on the airwaves instead

I heard about the mass panic buying of bottle shops getting rushed for alcohol supplies. So I went to my local Dan Murphy's to stock up for possible long winter house quarantine.

I asked the young girl at the cash register,

"Are you affected by the COVID-19 business closures?"

She had obviously been asked this question a lot that morning and with a deadpan face told me,

"Alcohol is deemed an essential service by the government."

I love this country...

VK3RWO Battery change	2
Site linking planning	7
VK3RWC Repeater, Mount Bruno	10
VK3RTV UPDATE	16
Amateur radio skills prove useful during bushfire emergencies	20
NEVARC Nets	23
NEVARC Club Profile	24

VK3RWO Battery change

After more than 2 years of flawless service, the inevitable has happened and the 6 year old truck batteries at the site have finally given up the ghost.

These batteries were removed from their original service due to them not being able to start the vehicle they were in. Then they were moved to the repeater site to power it.

The cabinet fell over in the wind causing acid to leak out. As they are technically sealed, more could not be added. That was over 18 months ago. I am surprised they lasted this long.

You can not knock a [Bond battery](#). Get them from [Arkon Auto Electrical](#).

Unfortunately, when the batteries have died, they had taken the solar regulator with them.

On Monday 24th Feb 2020, after work, I made the drive up to the site with a new (re-purposed - left over from a job about 10 years ago) regulator and some tools. At this point I did not know that the regulator had died, it was just a hunch.

I got up to the site, opened the cabinet, chased the spiders out, checked the batteries, and 0.5V. Bugger! The low voltage cutout was not working as it was controlled by the telemetry unit, and it was removed 18 months ago due to being beat up by lightning. A new and improved version is still being worked on, on my bench.

In typical Auto electrician fashion, we jump started the repeater (literally).



With this the repeater fired up straight away, yet no charge from the solar controller, even though it could see the battery voltage there now.

I started my vehicle, and found the batteries sucking nearly 60A, meaning one of them is more or less a dead short.

A photograph of the engine compartment of a boat. In the foreground, a large black battery is visible with the text "Bond Ultimate 488 SMF" and "12V 100Ah" printed on it. Above the battery, there is a fuse block and a battery disconnect switch. Various colored wires (red, blue, yellow, green) are connected to the battery and the fuse block. A black hose runs along the top of the compartment. The background shows the white interior of the boat's hull.

Now this little jaycar regulator, was in the service body of my work truck for 9 years then on the repeater site here. it has done a wonderful job for what it was:



Unfortunately, the jump starting and quick charge didn't help, time for new batteries.

On the weekend of the 29th Feb, I grabbed a couple of truck batteries (new ones this time), and made the trek up the hill.

For those who think maintaining a repeater site is a walk in the park, you need to have a look at this video. I have recorded the main section of the track going to the site to show that it is not for the faint hearted (or bad hearted). The video however does not do the drive up there justice.

Youtube link: <https://youtu.be/HSr2Gvnu5w>

Almost at the top of the hill, my front wheel kicked up a rock about the size of a football, and threw it into the transfer case. No damage done, I am driving the vehicle affectionally known as "the tank" (watch the video, you will hear it)!.

With the help of my youngest daughter, we changed the batteries, gave the panel a wipe down and checked the voltages. As the batteries were full, the controller was only float charging (13V).

When in full sunlight, the panel/regulator can power the 50W transmitter on its own without any discharge of the batteries.

My 9 year old daughter has taken these photos with her Christmas Present!





And back down the hill we came: Youtube link: <https://youtu.be/68hvrQh5n5E>

For all intent and purposes, these batteries have been dying for quite some time.

The repeater is definitely stronger now than it has been for some time. I wouldn't be surprised if the PA was only outputting 0.5W.

While we were up there, we did some thinking about [Site linking planning](#) for the other sites.

Have a read [here](#).

ARV (Amateur Radio Victoria) needs to take notice of this.

From finding out the repeater had died, to checking what is needed, to repairing the repeater and having it back on air, has taken 1 WEEK. Not 2 weeks, not 1 month, not 1 year, not 11 years, 1 WEEK, and I work a full time job. That's right CE, 1 entire WEEK.

~Matt VK3SMB

One of the things that perplexes most people when planning site linking, is relating what you see on a map to what you can see with your eyes. Yes those who do lots of it have some fancy GPS stuff to tell you what to do. what about a bit of old school mixed with some Google earth pro school?

Google Earth

Image © 2020 Maxar Technologies
 Image © 2020 CNRS / Airbus

Imagery Date: 8/24/2019 Lat: -36.217053° Lon: 146.523200° Elev: 349 m Eye Alt: 71.80 km

Then when you are on site, take an actual photo from the tower:



You can then compare the two to work out where you need to point the antenna:

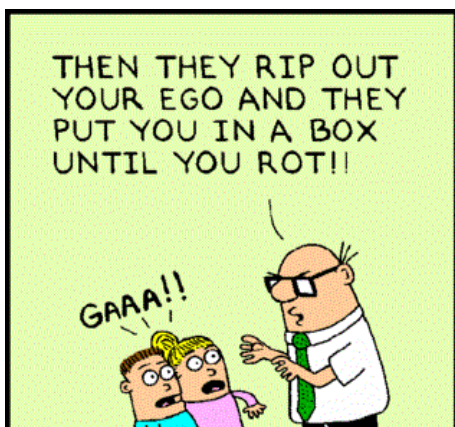


This picture was made by taking the real photograph, then overlaying an opaque version of the google ground view and adjusting the layer to line up.

And now I know where I need to point the link antenna!



~Matt VK3SMB



VK3RWC Repeater, Mount Bruno

VK3RWC Repeater, Mount Bruno, 145.725MHz (123Hz) in and 147.325 MHz out.

Make... Junkbox special

Bits from Philips FM828, bits from Icom IC2A, Sigtec tone boards, and other junk on hand.

TX antenna, Folded dipole. RX antenna, endfed dipole. Spaced at 7 metres vertical separation.

TX filter = 1 x 3 inch single tuned loop, bandpass band reject $\frac{1}{4}$ wave cavity.

RX filter = 1 x 3 inch single loop, notch $\frac{1}{4}$ wave cavity & 1 x 5 inch single tuned loop, bandpass band reject, capacitor shortened cavity.



The second RX cavity (the black thing that resembles a WW1 grenade) was once a 900 MHz analogue mobile phone tower $\frac{3}{4}$ wave cavity filter. The plunger had been shortened to work as a $\frac{1}{4}$ filter for 477 Mhz. The plunger has been inverted, lengthened, and made into a tubular piston trimmer capacitor (using a piece of LDF 550) to resonate it at 2 metres. The thing that really surprised me was, that I could get a higher Q notch with it, than I could with the full sized 3 inch cavity.

As can be seen there are many improvements that can be made, but it is up and running. Hopefully some antenna upgrades will improve mobile reliability in the future.





Phil (VK3ELV)

WORLD AMATEUR RADIO DAY

18th APRIL

Long before the invention of the World Wide Web, when instant communication was a dream and a letter was actually considered a pretty speedy way to communicate (outside of the phone), there were a group of pioneers who had already discovered the glories of a word-wide communication and the joy of communicating with people all over the world instantly.

What could this amazing form of communication be?

Why, Amateur Radio!

Amateur Radio Day reminds us of these great pioneers, their modern descendants, and how radio has been serving a worldwide community for well over 100 years.

History of Amateur Radio Day

Back in April of 1925, the International Amateur Radio Union came into existence in the incredibly cosmopolitan city of Paris. These intrepid adventurers had discovered that the short wave spectrum that amateur radio used to transmit and receive was able to unite people the world over, something that had formerly been speculated as being impossible.

This group of experimental radionauts proved this theory wrong, and banded together to campaign for and protect those bandwidths that would come to serve the community of radio enthusiasts.

Since then the IARU has worked tirelessly to broaden the range of bandwidths available to radio fans, and has expanded to include members all over the world, from 25 countries at last count.

Interest in Amateur Radio has only grown since those early days, with over 3,000,000 licensed operators spreading their voices across the globe today.

It's through this medium that people from different nations and cultures were able to spread ideas with great speed, long before the ability to shoot off an email or video chat was ever possible.

How to celebrate Amateur Radio Day

IARU has events all over the world to celebrate this great invention and to bring together people who still find value in being able to skip a radio across the ionosphere over thousands of miles and bring together two sides of the globe through little more than a oscillating wave of energy. If you've ever seen or worked with one, take some time on Amateur Radio Day to research the things it has been used for, and maybe see about getting into a small beginners set to start exploring the world of amateur radio.

Amateur Radio Day is your opportunity to dive into the world of Amateur Radio and discover what new friends and communities exist all over the world, so why wait?

ANZAC Front - Radio Amateurs Remember - AM and CW on ANZAC Day, 25th April 2020

The traditional AM & CW event organised by Mike "Banjo" Patterson VK4MIK and the Tablelands Radio Group of Far North Queensland, will again take to the air for the 9th year.

This is not a contest.

It instead honours those modes used by service personnel in earlier wars.

The event idea came from a conversation between Mike VK4MIK and World War II Coastwatcher in Papua New Guinea, Lionel Veale.

The concept developed by the Tableland Radio Group in Far North Queensland basically asks us to consider changing modes on ANZAC Day nets, as an honour and Amateur Radio salute to those who served or are serving.

The annual event involves ex-military sites and related museums.

Northern AM operations will centre around 7125 kHz.

**So I bought a new transceiver
and she asked...**



**“Are you going to sell any of
your old ones?”**

HAMS REGAIN ABILITY TO SEARCH FOR AVAILABLE AUSTRALIAN CALL SIGNS

The public list of available call signs is now once again accessible from an easily searchable web page. The tool is considered useful for hams who are upgrading their existing licence or applying for a new one and want to see if the call sign they are seeking has not yet been allocated.

<https://csdb.utas.edu.au/Callsign/SearchUnallocated>

Amateur Radio:

**(n) A hobby, where people talk
about their hobby, using their
hobby.**



VK3RTV UPDATE

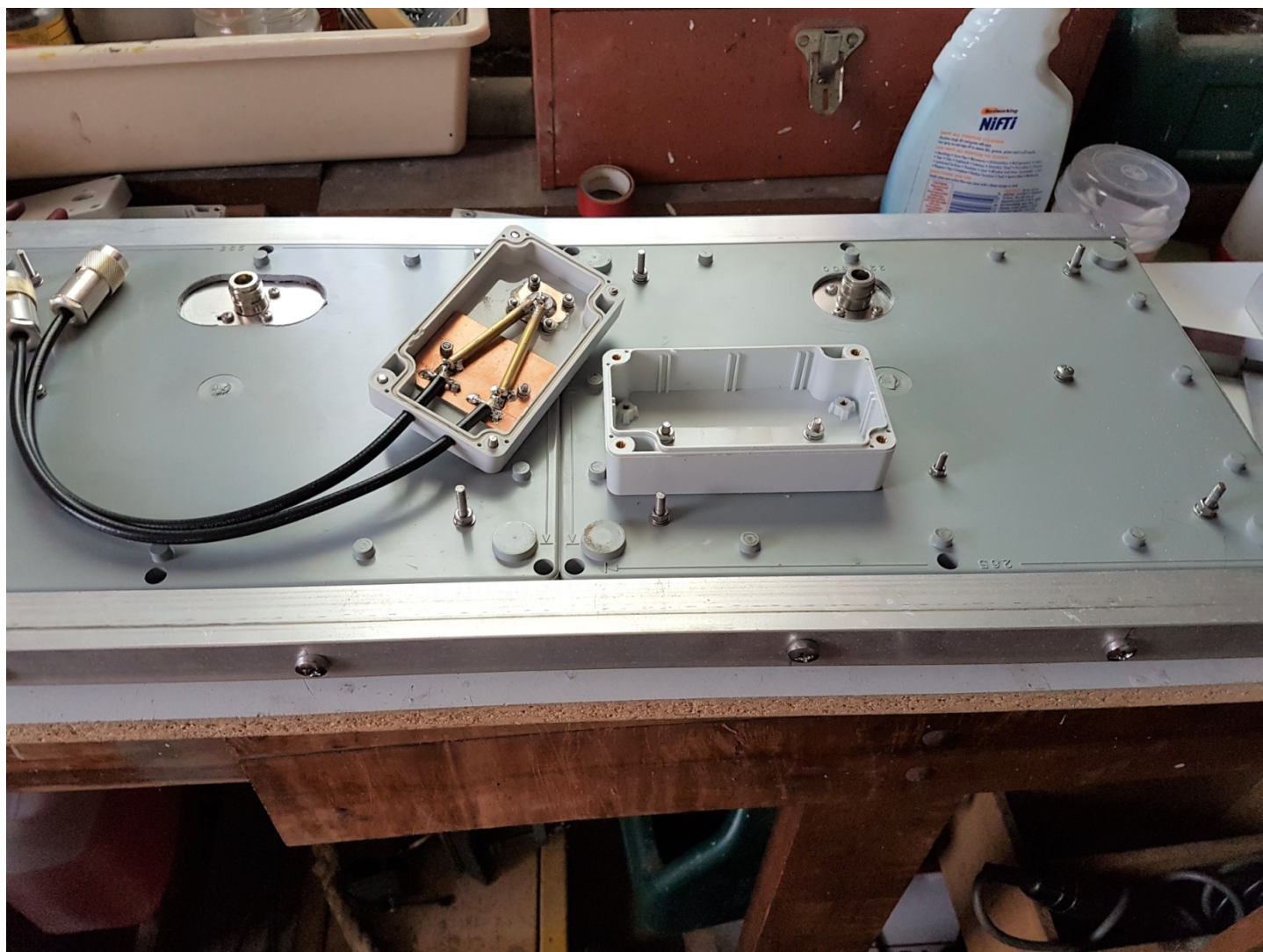
The new 70 cm antenna are on Mount View.

Just for interest, I have shown you how I matched the three, two quad arrays I have built for Mount View. The brass tubes are silver soldered to the N Connector right at the edge of the insulation around the pin. The pin is cut very short. I use a PCB ground plane for terminating the outers at the other end. I strip the outer from a suitable length of 75 ohm cable and insert the bare inners into the brass tube. They can then be accurately cut to length.

I use double shielded cable for the fly leads between the two quads.
All plastic in the installation is UV rated for outside electrical use.
When all connections are made the connectors are sealed with self amalgamating tape.

The Return Loss of the arrays are better than 20dB on all ATV frequencies. (VSWR 1:2)

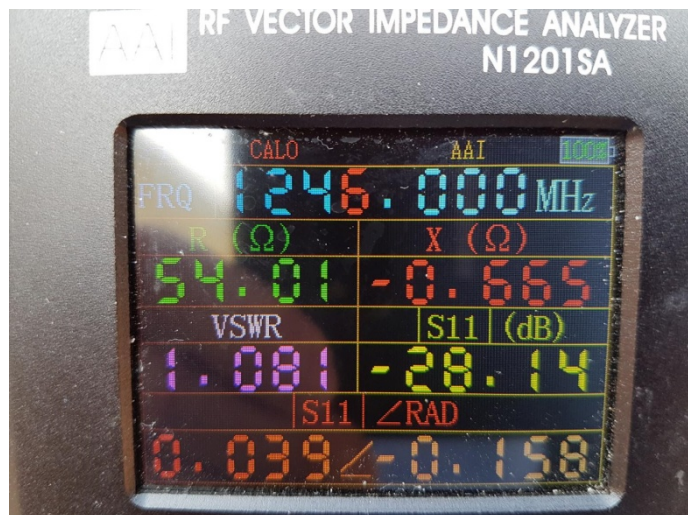
I have used a similar technique on antennas that were up at Olinda for more than 20 years. They are still useable with a very good return loss, in fact I used one of those arrays as a reference when testing the new quads.



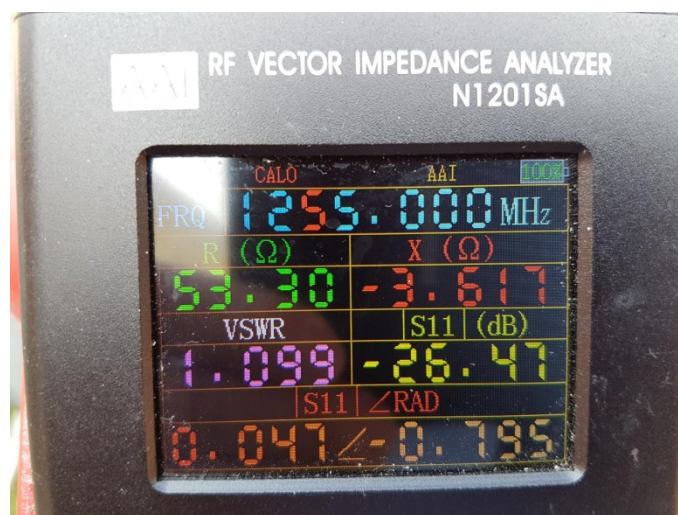
All antennas are now installed at Mount View.
There are three panels on 23 cm,

289M height (1278 MHz In) for the west,
190M height (1255 MHz In) for the north east and north west and
149M height (1246 MHz In) for operators south of Mount View.

Attached are some shots of one of the 23 cm panel's test results.



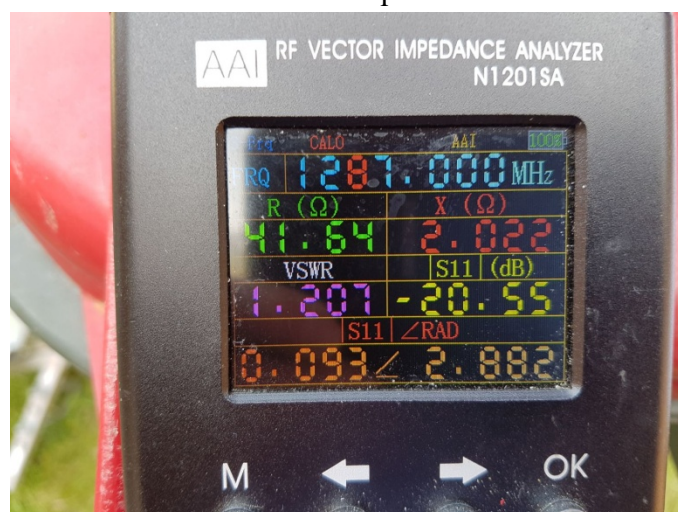
1246MHz quad



1255MHz quad



1278MHz quad



1287MHz quad

The design frequency was 1255, but these quads are nicely wideband.
The 70 cm vertical will be right at the top of the tower, something we have not had for a long time.
The panels will be just below.
This is giving us the prime locations on the tower.

A number of operators will possibly need pre-amps on receive.
Minikits in SA has a nice unit with a gain of about 18dB.
Remember downlink will be vertically polarised and uplinks horizontal.

The water ingress problem at Mount View has been fixed.
John Kessner has obtained the services of Ian Curry who is a qualified Rigger who runs his own consulting business. Ian has offered to do the tower work gratis which is very generous.

We also have Jordan VK3CLI who lives in Ballarat, is a fully qualified Rigger who has offered his services. At this stage Jordan could act in the role of safety officer.

Amateur Radio Victoria have been very generous to our group in allocating 4 cables to our purpose. In addition the antennas will be in prime locations on the tower. The transmit antenna will replace the vertical at the top of the tower. The beamwidth of the 23 cm panels is quite wide, but with moderate gain as well.

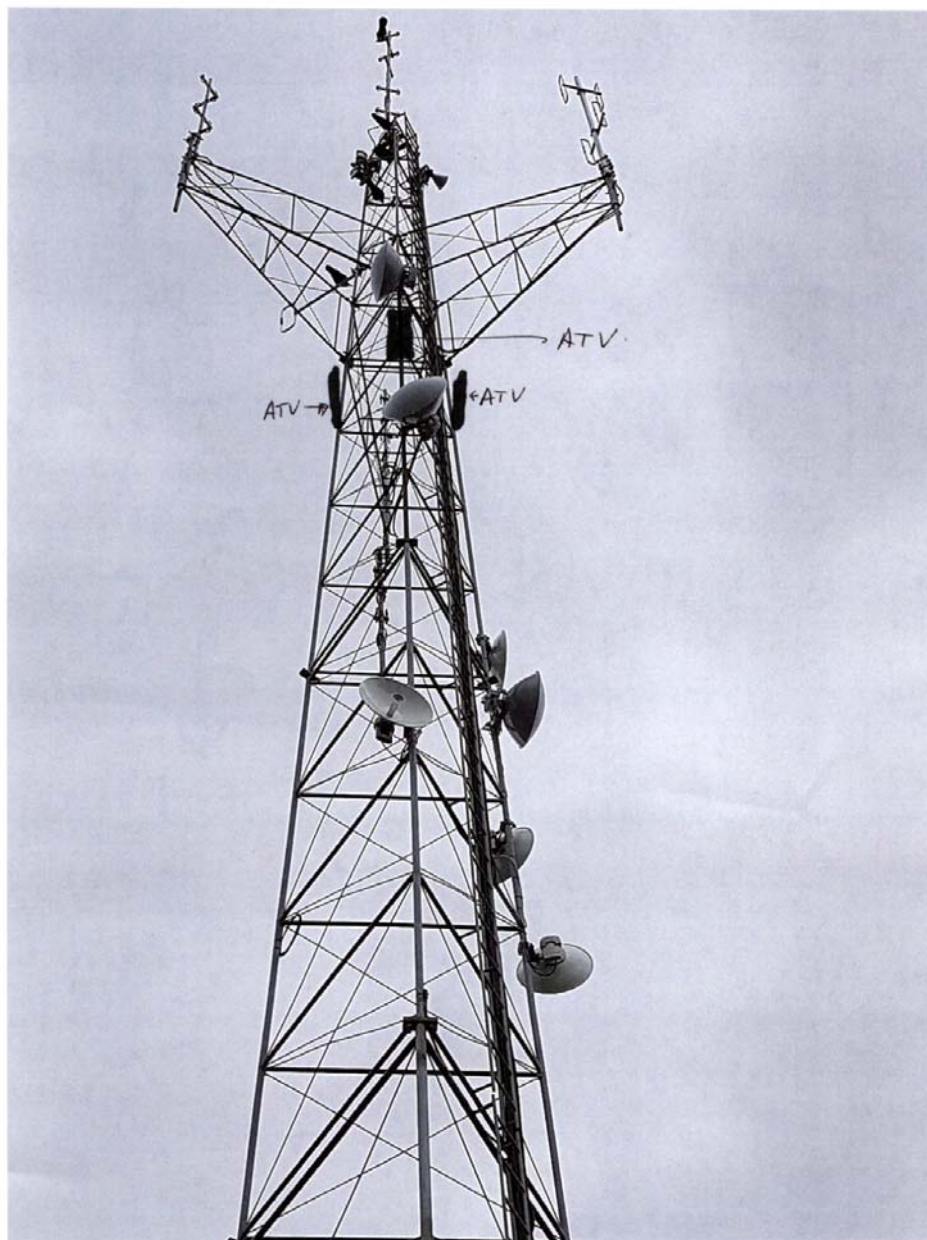
One panel will be orientated at 291magnetic/302 True.

Another panel at 020 magnetic/131 True

A third is at 140 Magnetic/151 True.

Panel 3 could accommodate 1250 MHz Analogue FM a little later.

I am sure Mount View is not going to be as hostile RF environment as Olinda anyway.





Photograph of the top of the tower

The panel facing forward is 291 Magnetic (just north of Melbourne CBD)
The one on the left is 020 Magnetic and the one behind is 140 Magnetic.

Originally we were going to place the panels on the outriggers, we changed that to the tower as it is a lot easier for the Rigger and also less vibration.

There would be no real difference in coverage. They all have a small amount of mechanical down- tilt.

Measurements taken show a loss of about 3 dB to the antenna which is very good for the frequency.

All antennas and cables came up well.

~Peter VK3BFG

Amateur radio skills prove useful during bushfire emergencies



Amateur radio enthusiasts have proved themselves useful during the recent bushfires after traditional telecommunication channels broke down. Amateur radio, also known as ham radio, is a skill and international hobby whereby enthusiasts use specific radio frequencies to communicate with each other. In Australia, users must complete an exam to obtain a license through the Australian Communications and Media Authority (ACMA). It was volunteers with these skills who were called in to assist during the recent New South Wales bushfires. Neil Fallshaw is vice-president of WICEN NSW Communications, a group of volunteers with amateur radio licenses who can help in emergency situations. He said about 30 members provided a temporary radio system in the Bega, Cobargo, Narooma, and Bermagui areas after some of the local radio infrastructure was damaged or had lost power.



"We deployed one of our radio repeaters on the mountains. We put a radio repeater system on that mountain to cover a portion of the south coast," Mr Fallshaw said.

He said that radio system assisted the NSW Volunteer Rescue Association and Bega Valley Shire Council staff to communicate from bushfire-affected towns like Bermagui and Cobargo.

"They normally use just mobile phones, but the mobile phones in the area were down because of fire damage," Mr Fallshaw said. Members of WICEN NSW also provided support operating regular radios at fire control centres in towns like Glen Innes, Port Macquarie, and Kempsey.

"They needed people who would be able to operate the radios in a communications environment which can get pretty hectic," Mr Fallshaw said.

WICEN Victoria did not play a role in the fires in Victoria this bushfire season but members were included in some emergency briefings.

"WICEN has a seat on the Gippsland Regional Emergency Management Team," regional coordinator Chris Morley said.



He said one reason they were not called in this year was because there were more options available to agencies.

"They have new radio systems, and satellite phones were also dropped into isolated remote communities where roads were not opened," he said. "There are options available these days, which is probably making WICEN not redundant, but less of an option."

Useful during emergencies

The relationship between amateur radio groups and emergency services differs from state to state.

In NSW, WICEN is recognised as a specialist support squad of the NSW Voluntary Rescue Association (VRA), which is a member of the state rescue board. VRA Commissioner Mark Gibson said the VRA's partnership with the Rural Fire Service (RFS) meant they were often called upon to provide support during emergencies. When needed, the VRA deploys some of its support squads, including WICEN.



Radio repeater trailers were deployed to provide a radio network in the Bega area after power was lost.

"Within the VRA, [WICEN] would be the most supportive support unit in the current bushfire operations," Mr Gibson said. "They can man the communications centres around the state, they can man the aircraft radio operators, and they can set up a communications network if needed down the coast."

In Victoria the relationship is less formal, but the group is mentioned as a "support agency" to emergency services in the Emergency Management Victoria (EMV) manual. "WICEN are an important partner, are represented at a regional level, and are part of the regional emergency management team in Gippsland," a spokesperson said. Tony Falla, an amateur radio user in central Victoria, said ham radio skills could be particularly useful when there were significant power outages.

For example, like that on the NSW south coast on New Year's Eve when mobile coverage, the national broadband network, and the local ABC radio transmitter all dropped out. "What I think amateur radio people have going for them is their ability to contact people outside the threatened area when there's no contact inside the threatened area and pass on messages of a health and welfare nature," Mr Falla said.

"You have a radio in your car or your home, you can run it off batteries, you can run it off solar power — it doesn't require any connection to the internet or the electricity grid."



PHOTO: Tony Falla says amateur radio skills could become more valuable in the future.

Considered 'old fashioned'

Mr Falla believes amateur radio skills could become more useful with the increased likelihood of extreme weather events leading to power outages. "Amateur radio is considered old fashioned; why would you want a radio when you've got the internet?" he said. "We have proved this year that the situations in place right now aren't adequate in the extreme."

PHOTO: WICEN operators also help with answering calls at the RFS headquarters in Sydney



Mr Morley said there were some within emergency services in Victoria who were unaware of the skills amateur radio enthusiasts could provide.

"You have a lot of different staff coming in during emergencies, and while some people know what WICEN can do, probably many don't," he said.

Mr Gibson said the small size of WICEN NSW limited their ability to assist, but the work they had been doing was excellent. "Since November 9, the WICEN group has completed 2,900 hours of radio communications, and that was only done by 30 members," Mr Gibson said. "WICEN, as a communications network, you won't get any better."

~ © ABC News Website

NEVARC Nets



40M Net

Monday, Wednesday and Fridays
10am Local time (East coast)

7.095 MHz LSB

Approximately + or – QRM

7.097 MHz has been used for a while now

Hosted by Ron VK3AHR

“Australia Ham Radio 40 Meter Net”

80M Net

Wednesday 20:30 Local time

3.622 MHz LSB

Hosted by Ron VK3AHR

Using the club call VK3ANE

2M Nets

Monday at 2000 local time on
VK3RWO repeater

146.975 MHz

President, VK2VU, Gary
Vice President, Tom VK3NXT
Secretary, VK2FKLR, Kathleen
Treasurer, Amy



NEVARC CLUB PROFILE

History

The North East Victoria Amateur Radio Club (NEVARC) formed in 2014.
As of the 7th August 2014, Incorporated, Registered Incorporation number A0061589C.
NEVARC is an affiliated club of the Wireless Institute of Australia.

Meetings

Meetings details are on the club website, the Second Sunday of every month, check for latest scheduled details.
Meetings held at the Belviour Guides Hall, 6 Silva Drive West Wodonga.
Meetings commence with a BBQ (with a donation tin for meat) at 12pm with meeting afterwards.
Members are encouraged to turn up a little earlier for clubroom maintenance.
Call in Via VK3RWO, 146.975, 123 Hz tone.

NEVARC NETS

HF

7.095 MHz Monday, Wednesday, Friday - 10am Local time ----- currently using 7097 MHz ----- Net Control VK3AHR
3.622 MHz Wednesday - 8.30pm Local time

VHF

VK3RWO Repeater 146.975 MHz--Monday - 8pm Local time
Net Control VK3ANE

Benefits

To provide the opportunity for Amateur Radio Operators and Short Wave Listeners to enhance their hobby through interaction with other Amateur Radio Operators and Short Wave Listeners. Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of likeminded radio and electronics enthusiasts. Excellent club facilities and environment, ample car parking.

Website: www.nevarc.org.au

Postal:

NEVARC Secretary
PO Box 69
Wahgunyah Vic 3683

Facebook: www.facebook.com/nevicARC/

All editors' comments and other opinions in submitted articles may not always represent the opinions of the committee or the members of NEVARC, but published in spirit, to promote interest and active discussion on club activities and the promotion of Amateur Radio.

Contributions to NEVARC News are always welcome from members.

Email attachments of Word™, Plain Text, Excel™, PDF™ and JPG are all acceptable.

You can post material to the Post Office Box address at the top of this page, or email magazine@nevarc.org.au

Please include a stamped self-addressed envelope if you require your submission notes returned.

Email attachments not to exceed 5 Mb in file size. If you have more than 5 Mb, then send it split, in several emails to us.

Attachments of (or thought to be) executable code or virulently affected emails will not be opened.

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While we strive to be accurate, no responsibility taken for errors, omissions, or other perceived deficiencies, in respect of information contained in technical or other articles.

Any dates, times and locations given for upcoming events please check with a reliable source closer to the event.

This is particularly true for pre-planned outdoor activities affected by adverse weather etc.

The club website <http://nevarc.org.au> has current information on planned events and scheduled meeting dates.

You can get the WIA News sent to your inbox each week by simply clicking a link and entering your email address found at www.wia.org.au The links for either text email or MP3 voice files are there as well as Podcasts and Twitter. This WIA service is FREE.